monitored physical layer transport rate; and adjusting, by said upstream source, said transmission rate responsive to the rate information in said management message.

Cont B1

2. (Twice amended) A method as defined in claim 1 wherein said management message is generated in response to a monitored change in said physical layer transport rate.

Sub C2

7. (Amended) In a communication system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time due to actual conditions of the transmission link itself, temperature variations and/or electromagnetic interference, a system for managing transmission of the data traffic through the system, the system comprising: monitoring means associated with the physical layer to monitor the transport rate of said transmission link; sending means to send to said upstream source a management message including rate information based on the monitored physical layer transport rate; and adjusting means, at said upstream source, to adjust said transmission rate responsive to the rate information in said management message.

B2

B3 Sub C3

11. (Twice amended) In a communications system for transporting data traffic downstream from an upstream source over

a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time due to actual conditions of the transmission link itself, temperature variations and/or electromagnetic interference, a method of managing transmission of the data traffic through the system, the method comprising: continually monitoring the physical layer transport rate of said transmission link; generating a management message in response to a change in said monitored physical layer transport rate which exceeds a threshold value, said management message including rate information based on said monitored transport rate; sending to said upstream source said management message; and adjusting said upstream source transmission rate in response to the rate information in the management message.

13. (Twice amended) In a communications system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time due to actual conditions of the transmission link itself, temperature variations and/or electromagnetic interference, a system for managing transmission of the data traffic through the system, the system comprising: monitoring means for monitoring the physical layer transport rate of said link; generating means to generate a management message in response to a change in said monitored physical layer transport rate which exceeds a threshold

value, said management message including information based on said monitored transport rate; means to send said management message to said upstream source; and adjusting means at said upstream source to adjust said transmission rate in response to the rate information in the management message.

Cont 84

14. (Twice amended) In a communications system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time due to actual conditions of the transmission link itself, temperature variations and/or electromagnetic interference, a method of managing the transmission of data traffic through the system, the method comprising: shaping a data connection from the source to the available bit rate (ABR) category of service, the ABR connection including integrated resource management (RM) cells for carrying congestion information back to said upstream source over a feedback path; monitoring the physical layer transport rate of said physical layer transmission link and recording a value derived from said monitored rate in said RM cell; returning said RM cell including the recorded value to said upstream; and adjusting by the upstream source the transmission rate in response to the recorded value in the RM cell.